

RESPONSE TO OFFICE ACTION
Serial No. 10/617,559
Page 3 of 13**IN THE CLAIMS**

1. (Currently Amended) A method of locating position of a satellite signal receiver, comprising:

determining a Doppler effect measurement for each of a plurality of satellite signals relative to the satellite signal receiver at a first time; and
computing [[a]] an initial position of the satellite signal receiver using the Doppler effect measurement for each of the plurality of satellite signals;
forming Doppler residuals using the initial position and the Doppler measurements for each of the plurality of satellite signals;
relating the Doppler residuals to a change in the initial position; and
computing an update of the initial position.

2. (Original) The method of claim 1, wherein the initial position is a first fix of position for the satellite signal receiver.

3. (Original) The method of claim 1, wherein each of the plurality of satellite signals is associated with a predefined reference frequency.

4. (Original) The method of claim 1, wherein the plurality of satellite signals comprises at least one of a global positioning system (GPS) signal, a Galileo system signal, and a Glonass system signal.

5. (Cancelled)

6. (Currently Amended) The method of claim [[5]] 1, wherein the estimating step comprises:

obtaining an approximate position of the satellite signal receiver from a wireless communication system.

RESPONSE TO OFFICE ACTION

Serial No. 10/617,559

Page 4 of 13

7. (Currently Amended) The method of claim [[5]] 1, wherein the initial position is an arbitrary location.

8. (Currently Amended) The method of claim [[5]] 1, wherein the initial position is a center of a country or a continent in which the satellite signal receiver is operating.

9. (Currently Amended) The method of claim 1, further comprising:

computing a frequency error associated with an oscillator of the satellite signal receiver using the Doppler offset measurement for each of the plurality of satellite signals.

10. (Original) The method of claim 1, further comprising:

computing velocity of the satellite signal receiver using the Doppler offset for each of the plurality of satellite signals.

11. (Currently Amended) A method of locating position of a satellite signal receiver, comprising:

determining at least one pseudorange between the satellite signal receiver and a respective at least one satellite;

determining at least one Doppler offset measurement for a respective at least one satellite signal relative to the satellite signal receiver; and

computing [[a]] an initial position of the satellite signal receiver using the at least one pseudorange and the at least one Doppler offset measurement;

forming Doppler residuals using the initial position and the at least one Doppler measurement;

forming pseudorange residuals using the initial position and the at least one pseudorange;

relating the Doppler residuals and the pseudorange residuals to a change in the initial position; and

computing an update of the initial position.

5643

RESPONSE TO OFFICE ACTION
Serial No. 10/617,559
Page 5 of 13

12. (Original) The method of claim 11, wherein the at least one satellite signal is respectively transmitted by the at least one satellite.

13. (Original) The method of claim 11, wherein the at least one satellite signal is transmitted by a respective at least one additional satellite.

14. (Original) The method of claim 11, wherein the position is a two-dimensional position comprising x and y coordinates in a horizontal plane.

15. (Canceled)

16. (Currently Amended) The method of claim [[15]] 11, wherein the estimating step comprises:

obtaining an approximate position of the satellite signal receiver from a wireless communication system.

17. (Currently Amended) The method of claim [[15]] 11, wherein the initial position is an arbitrary location.

18. (Currently Amended) The method of claim [[15]] 11, wherein the initial position is a center of a country or a continent in which the satellite signal receiver is operating.

19. (Original) The method of claim 11, wherein the at least one pseudorange is a sub-millisecond pseudorange.

20. (Currently Amended) The method of claim 19, wherein the computing step comprises:

computing an initial position of the satellite signal receiver using the at least one Doppler effect measurement;

RESPONSE TO OFFICE ACTION

Serial No. 10/617,559

Page 6 of 13

computing an integer millisecond portion of the at least one pseudorange using the initial position;
forming pseudorange residuals using the at least one pseudorange and the initial position; and
computing an update of the initial position.

21. (Original) The method of claim 11, wherein the position is a first fix of position for the satellite signal receiver.

22. (Currently Amended) The method of claim 11, further comprising:

computing a frequency error associated with an oscillator of the satellite signal receiver using the at least one Doppler offset measurement and the at least one pseudorange.

23. (Currently Amended) The method of claim 11, further comprising:

computing a time error associated with a clock of the satellite signal receiver using the at least one Doppler offset measurement and the at least one pseudorange.

24. (Currently Amended) The method of claim 11, further comprising:

computing velocity of the satellite signal receiver using the at least one Doppler offset measurement and the at least one pseudorange.

25. (Canceled)

26. (Canceled)

27. (Canceled)

28. (Canceled)

5643

RESPONSE TO OFFICE ACTION
Serial No. 10/617,559
Page 7 of 13

29. (Canceled)

5643

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